



OCTOBER 1987

COLORADO SPRINGS,
COLORADO

PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.

P.O. Box 16521
Colorado Springs, CO 80935

FIRST CLASS MAIL



Ø BEAT



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* Denotes 2 year term beginning October 1986

ZERO BEAT is published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Inc., P.O. Box 16321, Colorado Springs, Colorado 80935. Cost is \$8 per month for non-members or a \$4.00 per year subscription. Permission is given to reprint articles or excerpts provided credit is given. Deadline for submission of articles is the 21st of the month. Classifieds accepted anytime.

The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at Giuseppe's Depot Restaurant at 105 Sierra Madre at 7:30 p.m. All amateurs and interested parties are invited to attend.

Editor: Phil Somers VE1ARC, 1075 Allegheny Dr. Colorado Springs, CO 80919 598-7136

THANKS FOR THE GREAT SUPPORT

by Phil VE1ARC

When I became Ø-Beat editor starting with the March 1986 edition, I thoroughly expected to have to do a whole lot of writing, and a whole lot of hunting and scraping for articles to try and fill up the newsletter. Little did I realize that there would be an abundance of articles from a great number of you throughout the 20 months of my term as editor. In this my last editorial, I would like to express my appreciation to as many of the contributors as I can.

'View from the Peak' has been the cornerstone of Ø-Beat for a long time. You have to be an editor to appreciate the regular, dependable flow of articles from the prolific pen of NBCIX. Thanks George.

Another faithful contributor has been Ron NKØP, with his technical and contest oriented 'VHF and Above News'. I think we showed Ron how much we liked his articles when we voted him a big winner in the 'Best Article Contest'.

Without actually counting, I'm sure the person with the most articles while I have been editor is Jim WA9ABB. From humor (remember the ground plane article) to technical reviews and almost any topic, Jim was always there to contribute sometimes as many as three articles for a single issue.

Probably our best technical articles were submitted by Ken WA6TTY, complete with clear and concise diagrams. I still plan to build his mobile audio amplifier.

Another of our prolific 'columnists' has been Chris NXØE, with his series on antennas. I think he should consider letting ØBT have a look at some of his excellent thoughts. Well done Chris, and thanks for the nice Field Day photos.

The article that I probably enjoyed the most was my "interview" with Oak KØROL on the occasion of his 50th year in amateur radio.

The best subtle humor came from Bud NØDDF with his gem on QTH, QRT, QSY etc. I particularly liked QMH = My QMN is ...

Probably the most important activity that has regularly been reported in Ø-Beat is the VE testing. I could always count on Pete NØLA for his reports and statistics on all the progress you teachers and testers have been making.

There are a whole bunch of you who contributed one or two articles, and each was very welcome. You helped make Ø-Beat be fashioned each month almost exclusively by contributors in the Pikes Peak region.

(continued on page 6)

"VIEW FROM THE PEAK"

by George Hinds, N8CIX

Many new hams are venturing into 2M (and 220) FM. That's good. To assist the new ham this month I'll do my part by briefly explaining the structure and operation of a very sophisticated repeater system. Pay attention: this involves high technology...

First, a repeater has at least one, and sometimes more, receiver sites (we'll call them "goesintas") and a high-profile transmitter site (we'll call it the "comesouta"). To give you the most knowledge in the least space, I'll describe a multi-receiver repeater. So, buckle your safety belt - here we go.

Well, first you put your own comesouta on the air. When it's heard by one of the goesintas, it goes into the goesinta comesouta and is then picked up by the master goesinta at the controller point.

While at the controller point, your voice is carefully processed to remove all traces of national origin, grammatical errors (and even "hangover hoarseness") and then lowered a few octaves to achieve that "radio broadcaster" quality; then various degrees of friendliness, courtesy and a few drams of hi-tech proficiency are inserted -- wow! you never sounded so good!

From that point, your voice travels thru the main comesouta and goes over the airwaves to arrive at the goesintas of all the listeners out in radioland.

Simple! Now you're an expert on how a repeater works...

FCC NOTE:

It appears the FCC will have on its agenda soon a revamping of Part 97 (Amateur Regulations). As it is presently viewed, they will group rules in a better format and create new sections to deal with changed operating practices and subject matters in use today. Also contemplated is special attention to packet radio and emergency communications, i.e., what you can do, when you can do it, what rules apply.

WAYNE GREEN SEEKS VICE PRESIDENCY

The following tidbit is being circulated by CompuServe, an over-the-phone line personal computer data service.

"Wayne Green, (W2NSD/1) the man who made Peterborough, N.H., a hub for computer-related magazine publishing, says he's now interested in a new job: The Vice President of the United States.

"He says in announcing a bid for the Republican nomination to the nation's No. 2 job, "I'm not doing this for Wayne Green's ego. I'm doing this to get the message out" that the U.S. is falling behind in technology and finance. Green announced his candidacy at a Concord, N.H. fast-food restaurant. [The above is a partial excerpt from the 9/15/87 "W5YI Report].

"# BEAT" NEWS NOTE

Noting our newsletter is to soon have a new editor, let me tell you I've greatly enjoyed working with # Beat Editor Phil Somers, VE1ARC... A closing note: if not for "the last minute" much wouldn't get done! Adios for now -- George, N8CIX

ANTENNAS

By Chris Smith N8J/E

A fanciful question was raised when Ron, N8J/E, found that he could not work the N6CMW .52 machine from his vacation home west of the Peak. Since the Peak was between him and the local two meter simplex crowd, his signal was blocked. Yet the path was line of sight to the top of the Peak from both directions. Suppose someone put two antennas up there, one pointing toward Ron and one toward Colorado Springs, wired together. Such an arrangement might serve as a passive repeater to "bend" the signal over the top.

Actually, this idea has been used before and in some cases, can work. In practice many difficulties can occur, but it's easy to make an estimate to see if it's even remotely possible in a particular case. As an example, let's consider the case of Ron getting a signal through to the Springs. Since hard facts are lacking, I'm going to make up some reasonable guesses.

The key formula needed for this is called the Friis formula. It relates the received signal power to the system involved. It is: $Pr = Pt \cdot (L/(4\pi R))^2 \cdot Gr \cdot Gt$ where Pr is the power received, Pt is the power transmitted, L is the wavelength, R is the distance from receiver to transmitter, Gr is the receive antenna gain, and Gt is the transmit antenna gain. This formula assumes several conditions: that the polarizations agree (both vertical, say), that there are no mismatches (VSWR 1:1), and so on. We can assume these for now, and in practice allow a "fudge factor" to account for them.

Let's begin with the link from Ron's place to the Peak. It could be about 30 miles, but we want to work in meters since L and R must agree. So let's guess the distance to be about 50000 meters. L is, of course, 2 meters. Bay Ron runs 100W and uses a beam of 14 dBi gain, then $Gt = 25$ since the gain here is a ratio, not a dB value. Let's assume $Gr = 25$ also, that is, an identical beam on the Peak. Of course, every thing must be pointed in just the right directions!

The formula gives a received power of

0.64 microwatts! If the retransmitting antenna can handle this mighty load, let's see what happens on the downlink side. If Ron's talking to Al, the distance may be 40000 meters and the receive antenna gain may be about 4 (6 dBi, typical of a half-wave vertical such as a J-pole or Ringo Ranger). The new transmit power is just that of the uplink receive power, assuming no loss in the line. Let's assume the transmit antenna gain is another 14 dBi beam. The receive power for Al is then 1E-16 watts! That gives a signal of about 0.07 microvolts at Al's receiver. It's a pretty iffy situation.

The overall loss is 180 dB. Moonbouncer's experience 200 - 220 dB of loss and still make it work. The passive repeater just might work in reality, if, say, Ron really lives closer to the Peak, and Al were to use a beam, etc. Before trying such a scheme, I would want to be sure that the system gave enough signal strength to ensure about a 6 - 10 dB margin above the minimum acceptable level. This is the "fudge factor" to account for mismatch, excess path loss, etc.

No one's going to rush to put up a passive repeater on Pikes Peak soon, but the idea does illustrate the usefulness of the Friis formula.

FOR SALE

Heath Computer	HB (8080 CPU)	\$250.
Heath Computer	HB with graphics	\$400.
Osborne Computer	dual 5600s etc	\$300.
Perkin-Elmer	Bantam 550 terminal	\$150.
Telescope	Bauch & Lomb 4000E etc.	\$400.
Digitizer	tablet (HP)	\$400.
Heath	audio amplifier	\$300.
Heath	Microprocessor lab 6800	\$40.
Heath	color monitor	\$180.
Advent	projection TV	\$125.
HP Series	9000 portable computer	\$725.

Terry Therd H633-5779 W590-2676

VHF & ABOVE NEWS
by NKOP

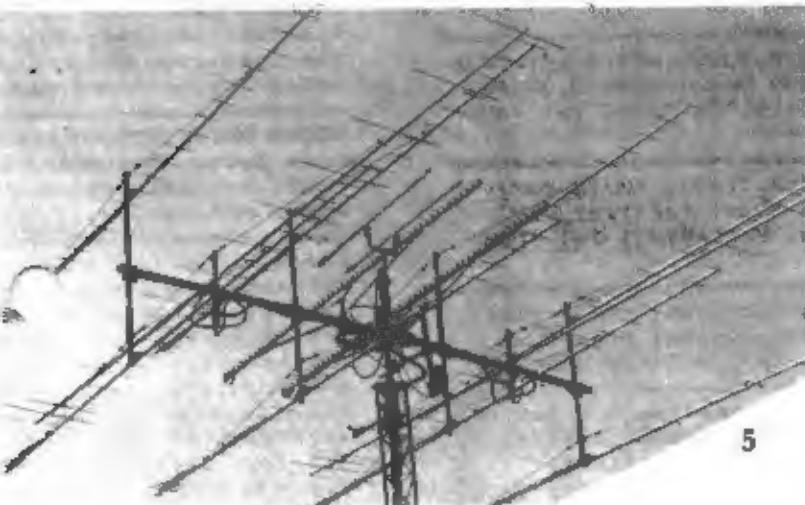
The ARRL has scheduled the 1987 EME contest the weekends of October 17th & 18th and November 14th & 15th. These weekends very quiet months and the apogee is during daylight hours. A single long boom yagi should allow you to hear the bigger stations and possibly work some if you have a 160 watt brick and catch the moon on the horizon. Listen at the bottom of the 2mtr band (144.001 to 144.05 or so)

KXOO has completed 10 QSO's on 2304MHz this month I was fortunate to witness 3 of them made from a hilltop near my home. The signals were amazingly strong. One grid was on SSB. If you have an interest in these higher frequencies there are four stations on in Colorado. (Maybe more)

YAESU has announced a new state of the art VHF/UHF Transciever FT-736R. This radio supports 25Watts on 2meters and 430to450 all modes. It has the capability for 220MHz; 1296MHz; or 50MHz but only four of the five at once!! Along with full crossband duplex and several dozen other nifty features. Well SANTA I know what I want for Christmas!

It seems pretty likely that we have finally bottomed out cycle 21 this summer. New predictions are for Cycle 22 to peak sometime in 1990. If we look at the last Cycle statistics we saw scattered f-2 openings on 50MHz about 2 years before the Maximum. So with any luck next summer should see some exciting band conditions. If that is to long to wait look for a pick-up of the frequency of Auroras right now!

I finally found a ham with more antennas than NOCMW here in the front range! If you are the first person to correctly identify the HAM who owns the array below at the next club meeting I'll have a Gift Cert. for free breakfast at the Village Inn for you. 73's and C U on the bands NKOP



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Boulder VE Testing

Except as noted, sessions are expected to be Monday evenings at 7:00 PM, at the National Bureau of Standards, 325 South Broadway, Boulder.

Bring a picture ID, the original and a copy of your current FCC license, if any, and a check made out to ARRL-VEC for \$4.35

Contact Barbara McClune, N9BWS at 530-1872, or on 146.10/70 or 146.16/76 to confirm the location, to reserve a set of test papers, or for general session information.

19 Oct 1987

Tentative:

25 Jan 1988
28 Mar 1988
23 May 1988
25 Jul 1988
07 Sep 1988 Sunday 9:30 AM BARCFEST88

WANTED

Manual for H16

Carl NOGYN

Thanks for the Great Support

(Continued from page 2)

The hardest task befall Al NOCMW who had to somehow make sense out of what went on at all the General and Board meetings, and put together the minutes. Al never missed an issue, and he was always the first to have his input to me. I appreciate all your work Al.

Lastly, I want to thank our new editor Keith NYST for a bunch of well written articles on several of his favorite subjects. He comes highly qualified, having been editor of a couple of military base newspapers. His interests in amateur radio are diverse, and he has done a lot of serious work in DX, satellites, repeaters, HF, VHF, UHF, RTTY, packet, computers, etc, including braving covenants to establish an impressive antenna array. Please give Keith the kind of support you have given me. I am sure he will reciprocate with a quality newsletter.

You may wonder why I am stepping down as editor if I have been having so much fun. I wonder that myself occasionally. The main reason is that I hope to free up a bit more time for a few of my other many endeavors, such as computers and astronomy. Running my astronomy computer bulletin board has been particularly time consuming. And I may even find some time to get back on HF. Despite covenants, no one has complained about my 'hidden' antenna in a year and a half. I'll be on CW, RTTY and packet a lot more.

When I first became editor, I participated in all the Club functions mainly because I wanted to be there to get the news first hand. But I got addicted, especially to the Teller County Hill Climbs. So I thoroughly intend to continue to participate in the many many activities the Club is so good at. And of course the Saturday breakfasts will be a must. By far the best part of being your editor has been the opportunity to meet so many fine hams, especially when I was new to the Club. Thanks for all your support. It sure made my job easy and very enjoyable. Keep up the good work for Keith. Thanks again.

.... Phil VE1ARC

Emergency/Disaster Antenna Project

by Jake N0CYR

The Emergency/Disaster antenna project has been completed. Two meter Ringo Ranger IIB antennas have been installed on the emergency roofs of the following hospitals:

USAF Academy Hospital
Ft Carson Evans Community Hospital
Penrose Hospital
Penrose Community Hospital
St Francis Hospital
Memorial Hospital
Eisenhower Hospital
City/County Health Dept

My heartfelt thanks to the following businesses and individuals for their support, contributions and physical help with the installations:

Pikes Peak Radio Amateur Association
Centennial Electronics
Wintronics
Montgomery Ward
Miley's Radio
St Francis Hospital
Penrose Hospital
NOCMW Al
KC6TQ Harley
KB6WX Dick
WB6TIB Bud
WA9ABB Jim
NK6P Ron
KE6CDQ Don
NL7CO Don
WB6CDC Jim
N6HDV Larry
Mr J. Brackett, Ft Carson

plus, of course, all the maintenance and security personnel at all the sites involved. Again many thanks to all.

OCTOBER MEETING

The next regularly scheduled meeting of the Pikes Peak Radio Amateur Association will be held on Wednesday, October 14 at 7:30 PM at Giuseppe's Depot at #10 B. Sierra St. The program will be Computers in the Ham Shack: Now and in the Future by Dale N3EUA.

OEM Parts

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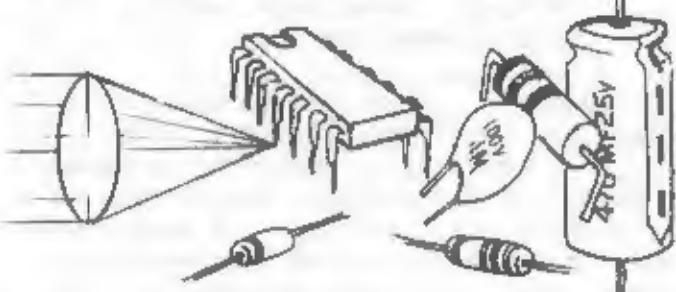
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Good Reading!
by Jim WA9ABB

A new book has been recently published by the ARRL. It is "W1FB's Antenna Notebook" by Doug DeMaw. It sells for \$8.00 and is a bargain considering all of the good information and practical hints within it. It explains antenna fundamentals in an easily understandable form without a lot ofumbo jumbo and very little mathematics. The book deals primarily with HF antennas, although the principles also apply to VHF and UHF antennas. There are numerous line diagrams throughout the book which help clarify the author's writing.

The book is especially suited for the beginner, but is also usable by the more advanced amateur. It covers many of the same topics as "The ARRL Antenna Book", but is much less oriented toward the "theoretical" aspects. Chapters cover fundamental antenna data, building and using dipoles, single-wire antennas, simple verticals, high performance wire antennas, limited space and "invisible" antennas, matching techniques, special receiving antennas, and simple antenna measurements. This book is guaranteed to take some of the mysticism out of antennas and exposes many of the common antenna misconceptions. Recommended as a best buy!

52 REMOTE

Because of the interest in the use of 52 simplex, I decided to see if, putting on a 450 mhz, talkback, might aid the users in the Springs area, to hear the weak long range signals.

Currently the machine is on the ground, but results have been good, so far.

The output frequency is 448.625 Mhz.

If you don't have a 450 rig, a scanner will do. The transmitter is on Cheyenne Mtn. The output is being linked up to the mountain through the KD0SO repeater, via KD0SO Aux. station.

If you do not hear the talk back, then it may be signaled on, with a touch tone of "# 7", the 7 must be within 1.2 seconds of the #, or it will not work. The Off code is "# 5". Again the 5 must be within 1.2 seconds of the #. The signalling is done on 52.

In time this machine will be moved to the mountain and the output will be changed, to 446.500 Mhz. When time permits, a remote will have a 52 output. All I need now is a two meter cavity.

I hope you enjoy the chance to duplex, on 52. So far it's been great listening to full quieting signals in Pueblo, of the locals in the Springs on 52.

Please feel free to call me at 591-2703 if you have other ideas for cross band machines. So far I've heard of a suggestion for a Gate way station, for 144.200 SSB, on the mountain. It is certainly within the realm of possibility. Any contributors.

73's Paul KD0SO...

NEW EDITOR
Keith Goobie - NY8T / VE3PDD

As many of you are no doubt aware, Phil (VE1ARC) will be leaving the editorship of the O-Beat as of November and I have volunteered to take over that position from him. I would like to take this opportunity to introduce myself, let you know how to get articles to me as well as to re-assure you that business will be as usual.

I acquired my first Ham licence back in 1974 at the age of 16 as a Canadian amateur class and with callsign VO1LX. A year later I upgraded to Canadian advanced class (there being only two classes of licence in Canada). Since that time, and being a member of the military, I have had assignments in various parts of Canada and the Middle East. I have had callsigns VE1CJM, VE1DD, VE3PDD, VO1LX/BU, and VO1LX/4U (YK), and needless to say with some of them the DX aspects were fantastic.

My interests in Amateur Radio are many and varied. In the beginning HF took up a great part of my time and had much fun developing antennas especially when I was in the Middle East. Later on, my interest grew in VHF and then on to satellite where I still devote quite a bit of my time today. One of my achievements that I am quite proud of was being heard aboard the Shuttle. Other aspects that I follow are UHF, SHF, Packet, RTTY and a very strong interest (almost devotion) in computers.

I arrived in Colorado Springs in Aug 1986 and live in the Old Farm (north east) part of the city. I am a member of the Canadian Air Force and work in the area of acquisition and engineering of communications and computer systems for NORAD and Air Force Space Command. I will be here for the next couple of years, but who can predict what the military will do next?

If you have articles for the O-Beat, here are a couple of ways that you may be able to get them to me:

a) Leave them on the packet BBS WB0BLV. I am on packet and check

in to the board on a frequent basis.

b) Leave them on the phone BBS that is operated by PHIL as EP0CH 2000.0. I have assistant sysop privileges and check into his system on a frequent basis as well, and

c) Give them to me in person. I try to make to most of the Saturday morning breakfasts and the monthly meetings.

Finally, I am always willing to listen to new ideas. Bearing that in mind, I have no intention of changing the format as it currently stands as it is a winning one right now. I hope that I will continue to receive the excellent support that Phil has enjoyed in the past and would like to thank him for the outstanding condition that he has left the paper in and the support that he is giving me.

73 Keith NY8T / VE3PDD

AMATEUR RADIO LICENSE EXAMINATIONS

WHEN: Sat, 14 Nov 87 at 9:00 AM
WHERE: First United Methodist Church
420 N. Nevada Ave.
Colorado Springs, CO
WALKINB: Allowed
TALK-IN: 146.37/97

NEEDED

1. Original FCC license, if any
2. A copy of your FCC license, if any
3. Two forms of positive identification (driver's license, birth certificate, passport or library card)
4. \$4.35 check or M.O. payable to ARRL/VEC
5. Completed FCC form 610
6. If physically handicapped, a physician's certificate describing the nature of the disability. Arrangements should be made prior to testing

Sponsored by: PIKES PEAK RADIO AMATEUR ASSOCIATION For more information, contact: Irene Long 389-0730 Peter LaFosse 495-4829

FALL TELLER COUNTY HILL CLIMB

The last weekend in September featured the last, and best racing event of the Colorado Hill Climb Association season. For those of us who are addicted, it was off to Teller County to enjoy the sunshine, the aspens, the scenery, the fresh air, the peace and quiet, and the noise and the dust. Again this time Doc WØMCT got us all organized. I think we had the best turnout of hams for the checkpoints ever for the Teller County event. There were also a whole bunch of cars (47) and lots of racing (3 heats and 2 finals). That makes for almost 250 times a car goes flying past your checkpoint. Here is the way we manned the checkpoints:

Saturday

Net Control	Doc	WØMCT
Check Pt 1	Berry	KEØGR
2	Bdale	N3EUA
3	Don	NØGHF
4	Phil	VE1ARC
5	Rick	WB7THT
6	Harvey	W1JU
7	Bill	WB7TQN
8	Jim	WAØTAV
Finish	Malcolm	KE9B

Sunday

Net Control	Doc	WØMCT
Check Pt 2	Gerry	KEØGR
3	Don	NØGHF
4	Phil	VE1ARC
5	Rick	WB7THT
6	Harvey	W1JU
8	Jim	WAØTAV
Finish	Don	WDØBFZ
Timing	Malcolm	KE9B

There seemed to be much more "action" this time than in the past. And the excitement was spread out along the course. Don NØGHF had the thrill of watching three crashes right in front of him, one which was rather spectacular. We were fortunate to have someone at that location. Rick WB7THT enjoyed his first Teller County, and made Doc promise that he could get the same checkpoint next year. He spent some time dodging cars, and watching them plummet over the edge at high speed. Doc, as usual, was near the finish where the speed is the fastest on the course, peaking at about 120 MPH. Not bad for a slippery dirt road!

Thanks also to the fine work by the assistant operators Rick and Butch at the KEØGR checkpoint, and the impressive job by John who operated the W1JU station.

For those who have never been to Teller County, you are missing a lot of fun. And next year we may go to the western slope to help out with the Land's End event. Apparently the scenery is even more beautiful out there. So thanks to all the participants. See you all same place in the spring.

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MINUTES OF SEPTEMBER GENERAL MEETING
submitted by Al NACMW, secretary

The general meeting of the Pikes Peak Radio Amateur Association was held at Giuseppe's Old Depot Restaurant, Wednesday evening 9 September 1987. The meeting was called to order by the vice president Ron NKOP at 19:30. There were 45 members and guests present. Ron asked everyone to introduce themselves by telling about their most interesting QSO.

The minutes of the previous General Meeting and Board Meeting were approved as printed in Ø-Beat.

Committee Reports

Notes: Anyone wishing to help out on any of these committees, please contact the chairman at the phone number listed. Thank you for your support.

Treasurer - Bud NØDDF (599-7699): Previous balance was \$2282.96, income of \$ 23.40, expenses of \$615.42 leaving a balance of \$1690.94.

Interference - Ron NKOP (593-8352): Solved one telephone interference problem with a capacitor.

Education - Harley KCØTQ (634-4555): Novice classes start Sep 15. Tues and Fri 7-9 PM at the police training room, basement of Police Station on Kiowa between Nevada and Weber. Need volunteers to help with code and theory.

Publicity - Rick WB7THT (599-7655): Nil

Colorado Council of Amateur Radio Clubs (CCARC) - Bud NØDDF (599-7699): Nil

Deaf and Blind School - Jim WA9ABB (598-7543): Classes starting 21 Sep. 5 kids. Frank KAOYXP, now a Tech is on .97 with HT donated by Ron KAOZHQ. Need volunteers for one-on-one help.

Ø-Beat - Phil VE1ARC (590-7136): Nil

AREB - Jim WA5SKK (579-9129): Nil

Public Service - Mike KØTER (636-1290):

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TAB BOOKS

Nil. Doug WB8MHP 599-9603 asked for help for Barber Shop Quartet chorus being held on Sep 25-26.

VE Testing - Pete NØLA (495-4829): Nine upgrades on last test. Next test on 14 Nov.

PIKES PEAK CLIMB FOR LIFE - Les KCØNC (634-3995): Event went well on 29 Aug. Assisted in couple of emergencies not related to climb itself.

Teller County Hill Climb - Doc-NØMCT (596-4216): Fall Teller county is the 26 and 27 Sep. Still need 5-6 people.

Old Business: Nil

New Business: Nil

Announcements:

Edale's BBB now back in business.

Interference on .97 repeater. Working on it. Please don't use the freq when interference is on as it prevents locating source.

Prizes - Ron NKOP:

Irene AH6BF Hirm splicer
Rosie WA8MNL Antenna bumper mount
Jim WA9ABB Repeater directory

Dick	KB0WY	\$10. Mintronics
Chris	NX0E	DSL cards
Connie	KA0PXE	Calculator ruler
Ron	KA0ZHD	pass
Len	WD6AMZ	Electronics magazine
Ralph	KA0MTX	Y adapter
Doc	W0MCT	Interference kit
Jim	WA0SXE	Screwdriver
Frank	N0IEM	Mike holder
Phil	VE1ARC	\$20. DEM Parts
Pete	N0LA	Proto board
Don	WD0BFZ	Solder
Jake	N0CYR	pass
Bud	N0DDF	Chassis connectors
Ken	N0FRQ	Small chassis
Don	WD0BFZ	Solder
Les	KC0NC	UnArc kit
Joe	N0ENM	Coax feedthrough

Program

Chris NX0E displayed a J-pole, and explained how it worked, and how easy it was to build.

The remainder of the program was a question and answer session with a variety of subjects discussed.

The meeting was adjourned at 21:30. The next board meeting was planned for "Pie in the Sky" restaurant on 14 Sep. The next general meeting will be 14 Oct.

MINUTES OF SEPTEMBER BOARD MEETING submitted by Al N0CMW

The Board meeting was held on 14 Sep at the "Pie in the Sky" restaurant. Meeting opened by vice president Ron NK0P at 1900. Present were Bud N0DDF, Al N0CMW, Phil VE1ARC, Ron NK0P, and Jim WA9ABB.

Club now has a 7.5 kw generator, gift of Hewlett Packard. Board will look into getting it located for use.

Phil VE1ARC resigned as #BEAT Editor and Board member effective Oct 14, 1987. NY0T Keith was accepted by the Board as the new editor effective Oct 14, 1987.

Ron NK0P has not found a suitable two meter rig to mount in the trailer.

The Board, after a lengthy discussion decided not to move the meeting from GIUSEPPE'S. Pie in the Sky was pleasant but not suitable for General meetings.

The Board needs someone to head up a Christmas Party committee. It is not to early to think of this. Someone please volunteer.

Next meeting is election night. Board has come up with a suggested slate. Nominations are open from the floor and are highly recommended.

President	Ron	NK0P
Vice Pres	Keith	NY0T
Treasurer	Bud	N0DDF
Secretary	Al	N0CMW
Board	Ron	KA0ZHD
Board	Bdale	N3EUA

Jim WA9ABB has accepted the publicity chairman position upon the resignation of Rick WB7THT.

There being no further business, the meeting adjourned at 21:00. Next board meeting on 19 Oct, location TBA.

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We will be closed the following dates for Hamfests:

Oct. 3-4 Lubbock, TX
Nov. 6, 7, 8 Odessa, TX
Nov. 29 (Sunday) Jeffco Fairgrounds, Denver
Dec. 4, 5, 6 Apache Junction, AZ

Oct. 6-Dec. 9 We are closed to walk-in customers.
We will be gone a lot of the time.
Please call ahead before coming and we
will make a sked to meet you.

We will get your phone messages as usual
and will call back that day or next — or,
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Thanks for the support, — Jess KØTAA
Mildred — BOSS

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